

What is claimed is:

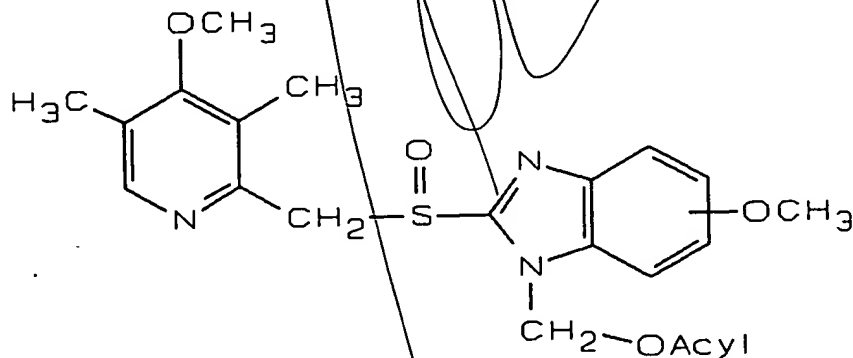
1. An optically pure enantiomeric compound comprising a Na^+ , Mg^{2+} , Li^+ , K^+ , Ca^{2+} or $\text{N}^+(\text{R})_4$ salt of (+)-5-methoxy-2-[[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazole or (-)-5-methoxy-2-[[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazole, wherein R is an alkyl with 1-4 carbon atoms.
2. The optically pure enantiomeric compound according to claim 1 selected from the group consisting of (+)-5-methoxy-2-[[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazole sodium salt, (-)-5-methoxy-2-[[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazole sodium salt, (+)-5-methoxy-2-[[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazole magnesium salt, (-)-5-methoxy-2-[[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazole magnesium salt, (+)-5-methoxy-2-[[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazole calcium salt and (-)-5-methoxy-2-[[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazole calcium salt.
3. The optically pure enantiomeric compound according to claim 1 selected from the group consisting of (+)-5-methoxy-2-[[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazole sodium salt, (-)-5-methoxy-2-[[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazole sodium salt, (+)-5-methoxy-2-[[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazole magnesium salt and (-)-5-methoxy-2-[[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazole magnesium salt.
4. The optically pure enantiomeric compound according to claim 1 selected from the group consisting of (+)-5-methoxy-2-[[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]-sulfinyl]-1H-benzimidazole sodium salt and (-)-5-methoxy-2-[[[4-

methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl-1H-benzimidazole sodium salt in their crystalline forms.

5. The optically pure enantiomeric compound according to claim 1 which is (+)-5-methoxy-2-[[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]-sulfinyl-1H-benzimidazole sodium salt in its crystalline form.

6. The optically pure enantiomeric compound according to claim 1 which is the compound (-)-5-methoxy-2-[[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]-sulfinyl-1H-benzimidazole sodium salt in its crystalline form.

7. A process for the preparation of an optically pure enantiomeric compound according to claim 1 which comprises separating from a racemic mixture a diastereomeric ester of formula IV



(IV)

wherein Acyl designates a chiral acyl group such as mandeloyl, having either R or S configuration, and dissolving each of the separated R or S diastereomers is solved in an alkaline solution whereby the acyloxymethyl is hydrolyzed to give the optically pure enantiomeric compound.

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8. The process according to claim 7 wherein the diastereomers are separated by chromatography or fractional crystallization.

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9. The process according to claim 7 wherein the solvolysis is performed in alkaline solution consisting of a base in a protic solvent comprising alcohol or water; or a base in an aprotic solvent, such as dimethylsulfoxide or dimethylformamide.

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10. The process for the preparation of a pure enantiomeric compound according to claim 7 wherein a product from the process in crystalline form is neutralized with a neutralizing agent which can be an acid or an ester, followed by treatment with a base in non-aqueous solution.

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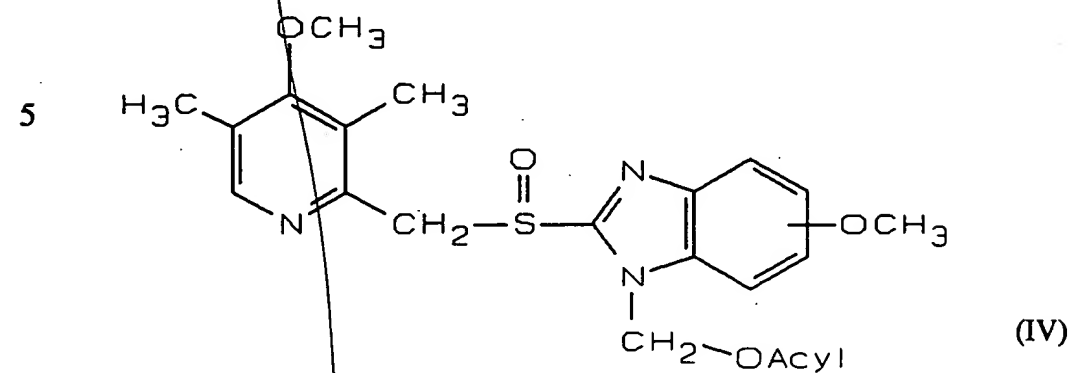
11. A process for the preparation of crystalline sodium salt of (+)-5-methoxy-2-[[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]-sulfinyl-1H-benzimidazole sodium salt or (-)-5-methoxy-2-[[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl] sulfinyl-1H-benzimidazole sodium salt in crystalline form which comprises neutralizing (+)-5-methoxy-2-[[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]-sulfinyl]-1H-benzimidazole sodium salt crude product or (-)-5-methoxy-2-[[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl-1H-benzimidazole sodium salt crude product, respectively, is neutralized and treating said crude product with NaOH in a non-aqueous medium.

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12. A process for the preparation of (+)-5-methoxy-2-[[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazole or (-)-5-methoxy-2-[[[4-methoxy-

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3,5-dimethyl-2-(pyridinyl)methylsulfinyl]-1H-benzimidazole which comprises separating a diastereomeric ester of formula IV



wherein Acyl designates a chiral acyl group such as mandeloyl, having either R or S configuration is and dissolving each of the separated diastereomers in an alkaline solution where the acyloxymethyl group is hydrolyzed off to give the optically pure enantiomeric compound after neutralization with a neutralizing agent which can be an acid or an ester.

13. The process according to claim 12 wherein the diastereomers are separated by chromatography or fractional crystallization.

14. The process according to claim 12 wherein the solvolysis is performed in alkaline solution consisting of a base in a protic solvent or of a base in an aprotic solvent.

15. The process according to claims 12 or 14 wherein the aprotic solvent comprises alcohol or water.

16. The process according to claims 12 or 14 wherein the aprotic solvent comprises dimethylsulforide or dimethylformamide.

17. The compound (+)-5-methoxy-2-[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]-sulfinyl]-1H-benzimidazole obtained by the process defined in claim 12.
- 5 18. The compound (-)-5-methoxy-2-[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]-sulfinyl]-1H-benzimidazole obtained by the process defined in claim 12.
- 10 19. A pharmaceutical composition comprising an optically pure enantiomeric compound according to the claims 1 as active ingredient and a pharmaceutically acceptable carrier.
- 15 20. An optically pure enantiomeric compound or salt thereof according to claims 1 or 2 for use in therapy.
21. A method for inhibiting gastric acid secretion comprising administration to a mammal including man in need of such treatment an effective amount of an optically pure compound according to claim 1.
- 20 22. A method for the treatment of gastrointestinal inflammatory diseases comprising administration to a mammal including man in need of such treatment an effective amount of an optically pure compound or salt thereof according to claims 1 or 2.
- 25 23. The compound 6-methoxy-2-[[4-methoxy-3,5-dimethyl-2-pyridinyl)-methyl]-1-[mandeloyloxymethyl]-1H-benzimidazole.
24. The optically pure enantiomeric compound according to claim 1 consisting of (+)-5-methoxy-2-[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]-sulfinyl]-1H-benzimidazole magnesium salt in its crystalline form.
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25. The optically pure enantiomeric compound of claim 1 consisting of (-)-5-methoxy-2-[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazole magnesium salt in its crystalline form.
- 5 26. The method of claim 21 wherein the optically pure enantiomeric compound is selected from the group consisting of (+)-5-methoxy-2-[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazole sodium salt, (-)-5-methoxy-2-[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazole sodium salt, (+)-5-methoxy-2-[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazole magnesium salt and (-)-5-methoxy-2-[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazole magnesium salt.
- 10 27. The method of claim 21 wherein the selected optically pure enantiomeric compound is in crystalline form.
- 15 28. The method according to claim 22, wherein the optically pure enantiomeric compound is selected from the group consisting of (+)-5-methoxy-2-[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazole sodium salt, (-)-5-methoxy-2-[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazole sodium salt, (+)-5-methoxy-2-[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazole magnesium salt and (-)-5-methoxy-2-[[4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazole magnesium salt.
- 20 29. The method according to claim 22 or claim 28 wherein the selected optically pure enantiomeric compound is in crystalline form.
- 25 30. An optically pure enantiomeric salt compound comprising the R or S diastereomeric structure of formula Ia, Ib, IIa or IIb, produced from a diastereomeric ester of formula IV, one diastereomer having been separated from
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the other, dissolved in an alkaline solution and hydrolyzed therein resulting in the optically pure compound.

5 31. The compound according to claim 30 wherein one diastereomeric form is separated from the other by chromatography or fractional crystallization.

10 32. A nonaqueous process for preparing a crystalline form of an optically pure enantiomer of omeprazole magnesium salt which comprises stirring a crude preparation of the omeprazole enantiomer under nitrogen into a methanolic magnesium methoxide solution; precipitating any inorganic magnesium salts with a small addition of water; removing any precipitated inorganic magnesium salts; concentrating the residual methanolic solution; precipitating the omeprazole enantiomer by adding acetone; and filtering off the optically pure enantiomer crystals of magnesium omeprazole.

15 33. The process of claim 32, wherein the optically pure enantiomer is (-)-5-methoxy-2-[[[4-methoxy-3,5-dimethyl-2-pyridinyl)-methyl]sulfinyl]-1H-benzimidazole magnesium salt or (+)-5-methoxy-2-[[[4-methoxy-3,5-dimethyl-2-pyridinyl)-methyl]sulfinyl]-1H-benzimidazole magnesium crystal salt.

20 34. The process according to claim 7 or 12, wherein the chiral acyl group is mandeloyl.

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